DOCUMENT RESUME

ED 131 926 PS 008 944

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TITLE Describing Children's Linguistic Development.
PUB DATE Mar 76
NOTE 25p.; Paper presented at the Social Science Research Council Seminar on Collecting, Using and Reporting Talk for Educational Research (Reading, England, March 1976) ; Not available in hard copy due to marginal reproducibility of original

EDRS PRICE MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS Disadvantaged Youth; *Early Childhood Education; Family Environment; *Language Development; *Language Research; Language Tests; *Linguistic Competence; Linguistic Theory; Longitudinal Studies; Minority Group Children; *Phonotape Recordings; Preschool Children; Research Methodology; Socioeconomic Influences; *Speech Skills; Verbal Communication
IDENTIFIERS *England (Bristol)

ABSTRACT

This is a study of language development utilizing samples of spontaneous speech collected over three years from a representative group of children. The study is part of the Bristol Longitudinal Language Development Research Programme, the aim of which is to describe how children learn to talk; more specifically, to what extent all children develop language in the same way and what environmental factors affect the rate and success of this development. Subjects were 128 children from various socioeconomic backgrounds, half 15 months and half 39 months at the beginning of the study. Each child was observed at three monthly interviews over a period of 2 1/4 years and on each occasion, tests of various aspects of linguistic ability were administered. In addition, recordings were made by a radio-microphone worn by the child throughout the day. Preliminary results suggest that socioeconomic factors are not as strongly related to language development as the qualitative aspects of the child's linguistic experience. If, as is suggested, the ability to take part in dialogue by adapting one's speech to the requirements of the communication situation is important, the linguistic disadvantage experienced by some children on entry into school may not be due so much to lack of formal linguistic resources, differences in dialect or accent, but rather to what their preschool experience has taught or not taught them about what people do with language. (Author/MS)

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DESCRIBING CHILDREN'S LINGUISTIC DEVELOPMENT

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Paper given to SSRC Seminar on Collecting, Using and Reporting Talk for Educational Research; Reading, March 1976

The aim of the Bristol Longitudinal Language Development Research Programme is deceptively simple: to describe how children learn to talk. We have set ourselves two general questions to answer: 1. to what extent do all children develop language in the same way? 2. what environmental factors affect the rate and success of this development? In order to provide a corpus of data to answer these questions, over the last 3 years, we have systematically collected regular samples of spontaneous speech from a representative sample of children. The 128 children being studied, half of whom were aged 15 months and half 39 months at the beginning of the study, were selected to give equal representation to both sexes, four classes of family background and all four seasons of birth. Each child has been observed at 3-monthly intervals over a 2 1/4 year period, and on each occasion, in addition to the recording in the home, tests of various aspects of linguistic ability have been administered under more standardised conditions in the Research Unit. The recordings themselves have been made by means of a radio-microphone, worn by the child, which transmits to a receiver linked to a tape recorder that is pre-programmed to record 24 90-second samples at approximately 20 minute intervals throughout the day between 9 a.m. and 6 p.m. This technique has obviated the need for a research worker, whose presence would have contaminated the naturalness of the speech to be recorded; the lack of on-the-spot contextual information is compensated for by playing back the tape to the mother in the evening and asking her to recall, in as much detail as possible, the participants and activity for each of the recorded samples of speech. When transcribed and checked, these recordings, of which we have now made 1,280, provide the raw data for our study.

However, before one can analyse the data to provide answers to questions about language development, one first has to decide what one means by language. Although to the layman the answer may seem straightforward, linguists are by no means agreed on the form the answer should take. Consequently, what it is that a child acquiring language is said to be acquiring will depend to a considerable extent on what theory of language is espoused by

the person conducting the research. Ten years ago, the dominance of Chomsky's transformational-generative grammar was so great that Halliday, a linguist, was taken to task by two psychologists for suggesting that different linguistic theories should "be regarded as appropriate to different aims rather than as competing contenders for the same goal" (Marshall and Wales, 1966, p.185). And indeed, the papers collected in Smith and Miller (1966) did seem to suggest that there was general agreement that research on language acquisition should be concerned to study the acquisition of the rules of a generative grammar. This was the heyday of syntax; but the unanimity was shortlived, and within a few years the same group of psychologists was criticizing the narrowness of Chomsky's goals, "from which by far the most important linguistic ability has been omitted - the ability to produce or understand utterances which are not so much grammatical but, more important appropriate to the context in which they are made." (Campbell and Wales, 1970 p. 247). With the concern with appropriateness in context, came a renewed interest in semantics, and semantically based theories of language (e.g. Fillmore, 1968; Chafe, 1970). Still more recently, it has been the pragmatics of language that has been the focus of attention, and various attempts have been made to incorporate the speech acts that utterances perform within the scope of linguistic theory (e.g. Searle, 1970), and also to include the structure of discourse at levels higher than the sentence (e.g. Sinclair and Coulthard, 1973). How then, should one describe what it is that a child has to acquire when he is learning to talk? Our decision, when in 1972, we devised the coding scheme for the analysis of our data, was that all these aspects of language - syntactic, semantic and pragmatic - should be taken into account, and that language acquisition should be seen as the acquisition of the ability to communicate through language in situationally contextualised conversation. Linguistic communication, we argued (Wells and Ferrier, 1972) is but one form of purposeful interpersonal behaviour, and individual utterances are typically constituent parts of larger sequences of interaction, and are constructed to take account of the context, both linguistic and non-linguistic, in which they occur. In describing any particular utterance, therefore, an account needs to be given of its context and of the speaker's intended purpose, topic and relevant attitudes, as well as of the surface form in which these intentions are realised.

The way in which we see these components being related in the production and reception of a single utterance, is illustrated, in a simplified and sche-

matic form, in Figure 1*. From the point of view of production, it is suggested that an utterance originates in the current state of motivation of the sender - the plan that he is currently pursuing - which requires him to interact with another person in order to achieve the purpose he has in mind. This purpose is, of course, related to the situation as he perceives it, and both purpose and perception of the situation are dependent on the internalised representation of the world that the sender has gradually built up on the basis of his past experiences. Drawing upon what is relevant in this past experience, the sender formulates a "meaning intention" which he wishes to be understood by the receiver. This meaning intention has three major components: a purpose that he wishes his communication to achieve in relation to the receiver; a topic to which his communication refers; and his attitudes both to the receiver and to the topic. The sender also presupposes knowledge and attitudes in his receiver which he can take for granted, both as a result of what he knows about him and in the light of the preceding conversation, if any. As a result, the message that he constructs is formulated to provide just that information which he judges will most help the receiver to arrive at his meaning intention at this particular point in time. If the message is to be communicated linguistically, it is then coded by the sender selecting, from the resources available to him, those lexical items, syntactic structures and intonation patterns that best realise his intended message. The resulting plan for the utterance is finally transmitted by the appropriate motor acts of speaking.

Comprehending an utterance is typically quite similar to production, for the aim of the receiver is also to construct a message - the message he judges the sender to intend. In doing this he draws upon a number of sources of information: firstly, his own past experience and current purpose lead him to perceive the situation in a certain way, thus predisposing him to expect messages with certain purposes and topics rather than others. Secondly nonverbal information from the situation, and shared information, built up during the preceding conversation, may also be available, providing further expectations about the message to be received. Finally, the utterance itself has its own internal structure which allows quite precise semantic, syntactic and phonological expectations to be set up and verified in terms of the sequence of linguistic elements of which it is made up. These various sources of information then have to be compared until a match is achieved and understanding is

* A fuller account is given in Wells (1976)

reached.

Considered within this theoretical framework, then, language acquisition entails learning how to produce and receive utterances in situational contexts. In very general terms, we see this developing out of the pre-linguistic communication that is established in the first year of life (Trevarthen, 1975; Bruner, 1975), through which the child learns to make sense of the world in which he finds himself (Wells, 1975b). Through his observations of the constantly recurring patterns in his environment and through information derived in relation to his actions, both physical and interpersonal, upon the people and objects in that environment, the child gradually builds up an internalised model of the relationships between people, objects and events and their characteristic attributes, and this model allows him to form expectations in terms of which to comprehend new experiences. Linguistic communication forms part of this environment from the beginning,as adults comment on the activities in which child and adult are jointly engaged; at first the child is only able to share in communication exchanges at a pre-verbal level and his messages are exclusively social in meaning. But this social experience of reciprocal vocalisation and turn-taking provides a framework of inter-subjectivity, which is an essential basis for the development of linguistic communication about the shared environment. This is obviously a cumulative process with certain features of utterances coming to function first as cues to the sender's meaning intentions, whilst others are still ignored. Gross intonational distinctions seem to be the earliest to achieve this status as signallers of the interpersonal functions of utterances; then specific words and simple grammatical patterns come to serve as cues to the topics of communication during the course of the second year, whilst most of the remaining grammatical distinctions are acquired during the third and fourth years of life. Put very simply, the child's task in learning to comprehend the speech of others is to make the match between the messages that he can expect in well-understood contexts, and the linguistic forms of utterances that are addressed to him in such contexts.

Learning to produce utterances, on the other hand, must involve somewhat different processes. Whereas the child can use expectations derived from previous experience to help him guess the meaning of speech addressed to him, and is not dependent on a morpheme-by-morpheme analysis of the input, the essential

requirement for producing an utterance is that the meaning to be communicated should be converted into a temporal sequence of speech sounds, organised by grammatical structure. Taking for granted the ability to articulate particular sound sequences, the problem then becomes one of using those linguitic cue systems that are already functioning in comprehension to organise these articulations. In a sense, therefore, acquiring productive control of the formal linguistic systems can be thought of as developing strategies for realising atemporal representations of meanings through temporal sequences of sounds that have socially significant patterning. There are three factors that aid the child in this task. Firstly, the recipient of his message, typically the mother, is already predisposed to attribute meaning to his attempts to communicate, and with the support of intimate knowledge of his habits and interests and of the situational context, she will probably "guess" correctly on a high enough proportion of occasions to provide encouragement. Secondly, and closely related to this, mothers and other adults provide various types of feedback, both verbal and non-verbal, that are contingent upon the child's communications. Thirdly, there is another strategy open to the child and that is that he may use segments of the utterances addressed to him as ready-made chunks in the construction of his own utterances, only later discovering the internal structure of such segments.

Clearly this general sketch of language development relies heavily on the belief that language develops on the basis of cognitive representations of experience and of matching linguistic forms to expectations derived from this experience. Rapid development of language could be expected to be dependent, therefore, on availability of model forms, on the concordance between utterances addressed to the child and the expectations that he has already derived from his understanding of the situation, on the actual simplicity of the linguistic distinctions to be learned, and on feedback of appropriate quality and quantity.

Here then are a number of hypotheses to be tested on our data. But in devising our coding scheme, we decided not to gear it to specific hypotheses but rather to code all the syntactic, semantic and pragmatic categories that we thought would be relevant,to testing these and many other hypotheses. Under the pragmatic heading, each child utterance is coded for the context in which it occurs, the purpose of the conversation of which it is a part and the function that it specifically performs in that conversation. In addition, the functions of preceding and following utterances by other speakers

are coded, as are the appropriateness of fit between child utterance and preceding utterance and child utterance and following utterance. The semantic coding describes the state or event that is the topic of the utterance, and the temporal, aspectual, modality and manner modifications of that state or event. The way in which the utterance is modified to fit its textual context is described in terms of voice, thematic organisation and cohesion. Finally, the actual surface form of the utterance is described as a linear sequence of constituents at different levels. A typical utterance requires somewhere between 50 and 100 separate codings. (The full coding scheme can be found in the Coding Manual (Wells, 1973))

At the time of writing, all the recordings have been transcribed and well over half have been coded, and the codings checked and transferred to computer store. We are now embarking on the phase of data analysis. This is taking two forms. Firstly, a description of the speech samples collected at specific age-points in terms of the frequency of occurence of specific categories and sub-categories. So, for example, we can say what proportion of children's utterances at a particular age have the function of question or refusal of a command; what proportion contain multi-clausal structures; what proportion refer to past and future as opposed to present events, and so on. We can also describe the relationship between these proportional frequencies and demographic variables such as class of family background, position in family, etc. Secondly, and rather more interestingly, perhaps, we can use the same data, viewed longitudinally to test the sort of hypotheses that can be derived from the general theory of language development outlined above. These are of two kinds: firstly, hypotheses about the order in which certain linguistic distinctions will be acquired, for example, that children will learn to ask grammatically well-formed Yes/No questions before questions beginning with 'who', 'what', etc.; and secondly hypotheses about environmental factors, particularly about characteristics of the conversations in which the children participate, that influence the rate of development.

To date, our results suggest that there will turn out to be a considerable degree of similarity between children in the sequence of their acquisition of the major semantic and syntactic distinctions, but that for particular sets of distinctions, there may be different routes to the same goal. As far as environmental factors are concerned, it appears that demographic

variables, such as class of family background and position in family, are not strongly associated with rate of development, but that, as predicted, there is a much stronger association between rate of development and qualitative aspects of the child's linguistic experience (Wells, 1974, 1975a). However, such results must be treated with caution, as the bulk of the analysis still has to be carried out.

Our interest in language development is not restricted to the pre-school years, however, for we believe that the study that we are engaged in has, potentially, some light to throw on the vexed question of the causes of educational failure, insofar as these are related to language, and to the success with which children are able to meet the linguistic demands and expectations of schooling.

Starting school involves a change from one social setting to another that differs from it in a number of ways: in size, in organisational patterns and routines, in the possibilities for one-to-one interaction, in the goals that are set and the means that children are expected to use in achieving them, and in the values that are put on different skills and competences. From all these points of view, what is central to the transition is a change in patterns of social interaction, and since this interaction is quite largely mediated through language, particularly in the school setting, the ease with which the transition is made will depend to a large extent on the child's ability to communicate effectively through language. It is not surprising, therefore, that 'linguistic disadvantage' has often been considered to be the major cause of lack of success at school. However, whether this is in fact the case, and if so, precisely what this disadvantage consists of still remains open to question. What makes the issue more difficult to resolve is the fact that it is the child from a low S.E.S. background who is statistically most likely to fail at school , and his environmental disadvantages are likely to include relative poverty, poor accommodation, overcrowding, low aspirations, etc., in addition to the putative linguistic disadvantage that is associated with membership of this low-status group (Tizard, 1974).

Those who believe that language is the key factor fall roughly into two groups. One the one hand, there are those who argue that such children simply have a deficit - a lack of vocabulary and syntax necessary for coherent, logical communication. Bereiter et al's (1966) statement that 'the language of

culturally deprived children is not merely an underdeveloped version of standard English, but is a basically non-logical mode of expressive behaviour' is probably the most extreme version of this position, but meetings with teachers working in the poorer districts of our cities confirm that this is a quite prevalent view. Of course, there is a very small proportion of children with very severely retarded language development, and within the large majority of normal children there is considerable variation in the rate of development, but whether the relative retardation of those children who fall below the mean is associated with later educational failure has still to be established.

Opposing the 'deficit' view, on the other hand, are those who claim that the language of the children who fail is not deficient or inferior, but simply different from that which is the norm in schools (Labov, 1970). Although such differences between home and school have not been clearly established, they might occur at one or more of several levels: the topics and purposes about which people communicate; the syntactic forms in which meanings are realised; or the accent and paralinguistic features associated with speech. All such differences are seen as being related to cultural or sub-cultural differences, and it is argued that no one set of language norms is superior to any other. However, although the case for recognising the value and effectiveness of distinctive speech styles within the communities that use them has been conclusively made (Labov, op. cit.), it may still be true that differences in speech style between home and school can, in practice, put a child at a disadvantage because they impede effective communication.

There are two ways in which we hope to be able to contribute evidence relevant to this debate. Firstly, by following some of the children through the first two years of schooling, recording samples of their typical linguistic interaction in school, we hope to find out the extent to which this differs from their pre-school experience of linguistic interaction at home, and whether such differences, if they occur are related to the child's success in school. Secondly, we intend to carry out retrospective comparisons between the children in the sample who are found to be markedly different in school success and effectiveness of linguistic communication in school, in an attempt to identify characteristics of pre-school linguistic experience associated with differential success in school.

In this latter context, we are particularly interested in investigating the specifically interactive dimensions of the children's pre-school linguistic experience. In our present coding procedure, each child utterance, with its context of preceding and following utterances, is coded relatively independently. Although this is quite adequate for the types of analyses already described, it fails to capture the full interactive nature of conversation - the way in which a second or subsequent utterance in a conversation, as well as having its own specific purpose and topic, picks up and, in various ways, develops the stated and implied meaning of the previous utterance (Turner, 1975). One of the ways in which this is achieved is by means of various cohesive devices, and occurrences of these are already accounted for in our coding scheme. But equally important as a means of relating one utterance to what went before is the system of differential information focus signalled by the placement of tonic stress, which allows a second speaker to indicate how his contributions, for example, accepts or contrasts with the preceding utterance. Intonational characteristics of utterances, such as change of pace and unusually large changes in pitch also play an important part in what Barnes and Todd (1975) have identified as the management of the interpersonal relationship in conversation, as opposed to the management of the joint construction of the topic, which is more centrally carried out by the selection of options from the mood system, for example, interrogative as opposed to the declarative.

An example will help to illustrate what features of the interaction are being focussed on. It is taken from one of the 90 second samples recorded when the child in question was 2 1/4 years old. (The full text and the conventions of transcription are given in Appendix I*). Jacqueline (J) is in the kitchen with her Mother (M), who is at the sink, washing the dishes. J is playing with the clothes that have been tipped out of the laundry bag in preparation for washing.

Utterance No.			
4.	J:	//↑Put all . 24 THINGS in// (to self)	[J is putting washing in bag]
5.	J:	//↓I'm 'putting 35 THINGS <u>in</u>//	
6.		M: //24 NO 53 DARling (v)//	
7.		M: //'No↑' no↑↑ ' no 15 NO// (accelerating)	

* The author would like to acknowledge the help of Sandy Hutcheson in devising the representation of intonational information.

..4..

8. J: //↑'I want to↑↑' put those 12 THINGS// (accelerating)
9. M: //33 YES//
10. M: //When 'they're 24 WASHED you 'can//
11. M: //'Not 24 beFORE//

...

In 4, J is commenting on the activity she is engaged in and in 5, she repeats her utterance, addressing it to M. Her intention is two-fold, to describe her activity and to invite M to share her interest. In 6 and 7, M, who has turned to pay attention to J and seen what she is doing, utters a series of Prohibitions, being more concerned with her own purpose than with taking an interest in J's. The increase in the pitch and speed of her second utterance act as a vocal substitute for physically curtailing J's activity. After a short pause, J reaffirms her own intention, and uses the same intonation features of rising pitch and increasing speed to ward off M's interference. In 10, M recognizes the validity of J's intention and grants deferred permission, coupling this, in 11 and 12 with a statement of the conditions under which the activity will be permitted. At the same time she indicates a temporal sequence of events in which J's intended activity will be appropriate at one stage rather than another.

Later, within the same 90 second sample, there is another negotiated interchange in which M attempts to understand J's meaning and to help her to clarify her understanding of the situation. Jacqueline has seen a pair of her socks in the pile of washing and recalls that they had been given to her by Auntie Linda. She tries to share this interesting information with M (20-33), but has difficulty in organising the form of her utterance to encode her meaning intention.

Utterance No.

33. J: Did . Linda bought <you> me got . <u>washed</u>? (false starts)
34. M: <u>Pardon</u>?
35. J: //LINda wa- // 324 WASH them// (self-correction)
36. M: //24 NO//
37. M: //35 MUMmy's 'going to 'wash them//
38. J: //15 LINda 'wash them//
39. M: //24 NO//'Linda's 35 NOT 'going to 'wash them//

..

40. J: //24 LINda 'not 'going//54 WASH them//
41. M: //35 NO//
42. M: //35 MUMmy 'wash them//

...

In 33, J tries to express all the information in one confirmation-seeking utterance, but has difficulty in co-ordinating the parts. M asks for a repetition (34) and J, assuming that 'socks' as topic is jointly understood, tries in 35 to express her observation in a simpler form, but, as the hiatus suggests, still has difficulty. The arrangement of the components 'Linda' 'wash' and 'them' (=socks) in the utterance she produces encodes a simple Agent Act on Object clause, in which 'Linda' is the Agent. But this does not correspond with the situation, nor as far as one can judge with J's intention. The problem seems to result from a conflict between two intentions: the first is to ask for confirmation of the proposition that the socks are to be washed; the second is to focus attention on the fact that it was Linda who gave her the socks. But having reduced the topic, 'socks', to the status of the anaphoric pronoun 'them', she can no longer qualify it by means of a relative clause in which 'Linda' as Agent could be given information forcus. In 36 and 37 M rejects J's statement as inaccurate and, using marked tonic placement, offers a contrasting true statement, which matches the surface form of J's utterance. J seems unable to accept this way of putting it and in 38 reaffirms her original formulation, using contrasting marked tonic placement. M again rejects J's statement, and this time explicitly negates it (39). In 40, J, using marked tonic placement, restates her understanding of the fact that it is not Linda who is going to wash the socks, and signals her wish for confirmation of this statement. M confirms the correctness of J's negative statement and (41-42), picking up the contrastive implication of the tonic placement in J's utterance, restates the situation positively with 'Mummy' as agent. J's silence is to be taken as agreement with this jointly constructed description of the situation.

These episodes have been commented on in some detail, because they bring out rather clearly the way in which the mother's speech is relevant, not only to the external situation, but also to her understanding of the child's intentions. The second episode, in particular, suggests one way in which, through participation in dialogue in which meaning is negotiated, the child learns to control some of the formal systems that allow speech to be made

relevant to the situational and interpersonal context.

It is this characteristic of 'mutual relevance' in a child's experience of conversation that we think may be important for his success on entry to school. Discussion of linguistic disadvantage has usually distinguished between children in terms of size of vocabulary, range and complexity of sentence types used and so on; however, it is clearly not the ability to produce linguistic forms, as such, that is the mark of the linguistically successful child, but rather the ability to use these resources of vocabulary, syntax and intonation to communicate effectively in a range of situations, where effectiveness is quite largely a matter of making what is said relevant to the needs of the listener as well as to the intentions of the speaker.

To achieve this communicative competence the child needs appropriate experience of such use of language in his pre-school home environment. Research to date (e.g. Snow, 1972; Fraser and Roberts, 1975) has shown that parents, particularly mothers, modify their speech style when speaking to young children by restricting the length, complexity and range of vocabulary of their utterances, and by producing frequent repetitions of well-formed, contextually appropriate models. But how far do all parents provide the essential experience of jointly constructed meaning-making, from which the child can learn how to match what is said to the total requirements of the communication situation?

By way of contrast with Jacqueline, consider Sally, whose typical experience is well illustrated by the two samples presented in Appendix II. The physical situation is not dissimilar to Jacqueline's, and Sally, who is by no means a 'non-verbal' child, chatters away while her mother is engaged in the domestic task of preparing the dinner. However, all that Sally can be assumed to be learning from this experience is that speech is a means of expressing individual concerns and attitudes; there is nothing of the cooperative endeavour to achieve mutual understanding that characterized Jacqueline's experience. When Sally's interests and intentions conflict with her mother's, her mother makes no attempt to negotiate a mutually agreed resolution; what Sally is learning is not to expect responses that are relevant to her intentions and ultimately, one might expect, not to listen nor to adjust the expression of her own meanings to take account of the needs of others. Jacqueline's mother in a similar situation, attempts to treat Jacqueline as an individual with interests and

intentions of equal validity to her own. She listens to what Jacqueline has to say and continues the dialogue until discrepancies are resolved. What Jacqueline is learning, we can assume, is that, in communicating with someone else, it does matter how one's meaning is expressed and that where there is disagreement, this can be resolved by verbal negotiation When she fails to make her meaning understood, she has the support of an adult who attempts to understand her intention and helps her to find the form that matches that intention.

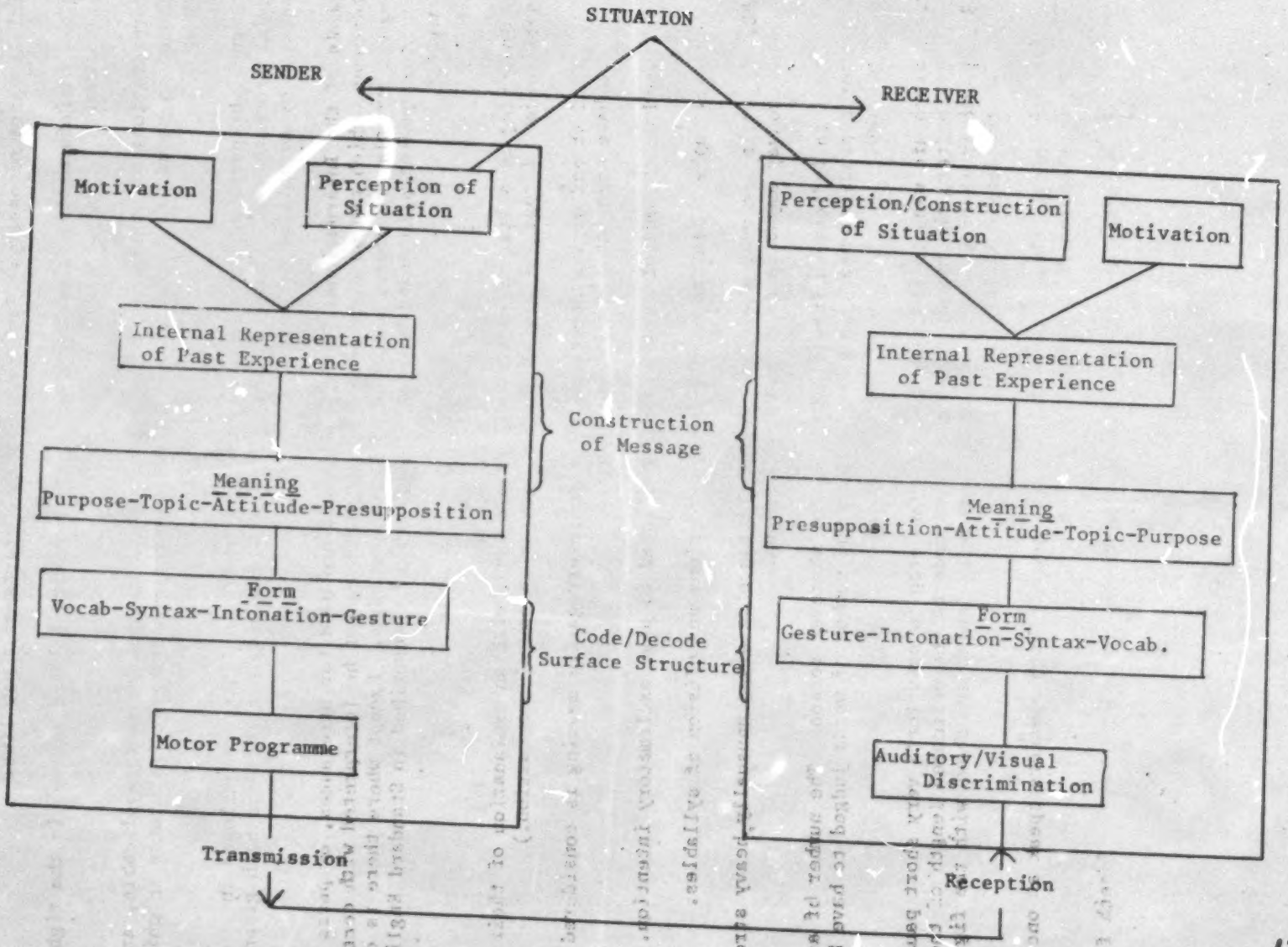
Lest this marked difference between the two mother-child pairs be attributed to the effects of social class, it is worth noting that both Jacqueline and Sally come from the same class of family background: both fathers are construction workers and none of the parents has had more than minimal education. Nor is there a simple contrast in terms of code. As in most adult/pre-schooler conversation, interchanges in both homes are restricted in form and closely tied to context. The important difference is that, unlike Sally, Jacqueline is learning that in order to communicate successfully, one has to modify one's message to take account both of the situation and of the knowledge and purposes of one's listener and that, on occasions, this requires one to make one's meaning explicit.

Jacqueline and Sally are now nearing the end of their first year of formal schooling, during which time they have been observed as part of the 'Children Learning to Read' project (Raban, 1975). It is not surprising to learn that Jacqueline is rated by her teacher as a high achiever, whereas Sally is rated as well below average; since entering school, Jacqueline has learned to read quite fluently, whereas Sally's teacher is having difficulty in getting her to engage in any form of School activity.

If the ability to take part in dialogue by adapting one's speech to the requirements of the communication situation is as important as has been suggested, the linguistic disadvantage experienced by some children on entry to school may not be so much due to a lack of formal linguistic resources, nor to differences of dialect and accent (although teacher expectations based on stereotype responses to such features of children's speech are probably important (Giles, 1970; Shafer and Shafer, 1972)), but rather to what their preschool experience has taught them - or rather not taught them - about what people do with language. In the classroom environment, where intentions have to be explained and actions justified, and where each child is expected

to share his news with teacher and fellow pupils, it is a disadvantage indeed not to have learnt to play one's part in dialogue, but to be restricted instead to the unilateral expression of one's own individual point of view.

To stress the importance of being able to take the point of view of the person with whom one is interacting is not new, of course. It has been a pervasive theme of Piaget's writings on cognitive development, and, in a pedagogical context, it has been one of the main aims of most of the 'functionally' oriented language intervention programmes such as those of C.U.E.S. (in press), Blank (1973), Tough (1973). Where we hope to make a new contribution is in the exploration of the ways in which this ability is acquired and of the types of linguistic experience that provide opportunities for its acquisition. The examples discussed above illustrate what it is we plan to investigate : our task now is to find some systematic way of exploring the means whereby mutual relevance is achieved.



A MODEL OF THE COMMUNICATION SITUATION
Figure 1.

LANGUAGE DEVELOPMENT PROJECT

Conventions and Layout for Transcription

The speech of the child being studied is set out in the left-hand column. The speech of all other participants is set out in the centre column, with identifying initials where necessary. Each new utterance starts on a new line.

Contextual information is enclosed in square brackets [ ] and set out in the right hand column.

Interpretations of utterances and descriptions of intonation where applicable, are enclosed in round brackets ( ) and included immediately after the utterance to which they apply.

Utterances, or parts of utterances, about which there is doubt are enclosed in angular brackets < >. Where tw interpretations are possible they are both given, separated by an oblique stroke.

Symbols of the International Phonetic Alphabet are used for utterances, or parts of utterances, which can be clearly heard, but which cannot be interpreted with certainty. Phonetic symbols are always enclosed by oblique strokes. Except where there is doubt about the speaker's intended meaning, the speech is transcribed in Standard English Orthography.

The following is a list of additional symbols used, with an explanation of their significance. (Stops and commas are not used as in normal punctuation.)

? Used at end of any utterance where an interrogative meaning is considered to have been intended.

! Used at the end of an utterance considered to have exclamatory intention.

' Apostrophe. Used as normal for contractions and elision of syllables.

CAPS. Capitals are used where part of an utterance receives unusually heavy stress to convey emphasis or contrastive meaning.

* Used to indicate unintelligibility, for whatever reason. The number of asterisks corresponds as nearly as possible, to the number of words judged to have been uttered.

... Stops are used to indicate pauses. One stop is used for a very short pause. Thereafter, the number of stops corresponds to the estimated length of the ..8.. pause in seconds. Pauses over 5 seconds in length are shown with the figure for the length of the pause.

____ Underlining. Where utterances overlap because both speakers speak at once, the overlapping portions are underlined.

" " Inverted commas are used to enclose utterances considered to be 'Speech for Self'.

⁀ Slur mark indicates unbroken intonation contour where a pause or clause boundary might otherwise indicate the end of an utterance.

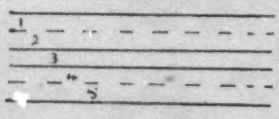
- Hyphen indicates a hiatus, either because the utterance is incomplete or because the speaker makes a fresh start at the word or utterance.

(v) Used to indicate that the preceding word was used as a vocative, to call or hold the attention of the addressee.

Conventions of Transcription (S. Hutcheson)

//	Tone-group boundary
CAPS	Tonic syllable
'	Stressed syllable
→	Lengthened syllable
↑↓	Shift up or down of the average pitch range over pre-tonic syllables (i.e. high or low "key")
⇈ ⇊	Shift to extra high or low "key" (moving outside the normal limits of the pitch range)
*	Some aspect of the coding given is problematic.

Tone: A system of numbers is used to refer to pitch movement at the tonic, where the tonic is defined as the tonic syllable and any succeeding syllables to the end of the tone group. The pitch range of a speaker is divided into five bands numbered 1-5 from high to low. E.g.:



The following information is retrievable from this number coding.

a. Direction of pitch movement:
   - Fall: smaller number first (e.g. 13, 25)
   - Rise: larger number first (e.g. 31, 43)
   - Rise-fall: (e.g. 324)
   - Fall-rise: (e.g. 243)
   - Level: repeated number (e.g. 33)

b. Onset level of the pitch change:
   - Mid 3
   - High 1 or 2
   - Low 4 or 5

c. Range of pitch movement:
   For example with a falling tone
   - Extra wide 15
   - Wide 25, 14
   - Neutral 13, 24, 35
   - Narrow 12, 23, 34, 45

Note: Where (part of) a pretonic is marked for extra high or low "key" (e.g. ⇈ or ⇊), the subsequent tone numbers must be interpreted in terms of the redefined limits of the pitch range.

Name: Jacqueline Date of Birth: 26 August 1970 Record No 5 Date of Recording 1.12.72

SAMPLE NO. 1 Participants: Jacqueline and Mother Location: Kitchen

Time: 9.15

Activity:: Jacqueline is playing with laundry .
Mother is washing up

*

1 //24→LAUNdry 'bag// [J. has the laundry bag]

2 //35→LAUNdry 'bag//

..

3 // In 14 THERE//

.

4 //↑'Put all . 24 THINGS in// [J. is putting washing in the bag]

5 //↓I'm 'putting 35 THINGS in//

6

7 //24 NO 53 DARling (v) //

//'No ↑'no ↑↑ no 15 NO// ('accel.')

..4..

8 //↑'I want to↑↑ 'put those 12 THINGS// ('accel.')

9 //33 YES//

10 //When 'they're 24 WASHED you' can//

11 //'Not 24 beFORE//

...

12 //What's 24THAT 54 MUM (v)?//

N.R.

..4..

13 *//→'You 'dirty 45 CAT// (to baby Jane)

14 Oh she's not

(laughs)

15 She's not a dirty cat

16 Are you darling(v)? (to baby Jane)

.

17 No (command to J.)

18 Leave Mummy's washing alone please(firmly)

19 Mummy's got to wash all that

20 //'Wash 243 LINda's -// [An Auntie Linda gave J. som socks and she now refers to them as Linda's socks]

21 There's my socks

22 ***

23 //14 LINda 'bought// some 34 SOCKS 54 MUM (v)//

24 Yes there's your socks

25 Lin-

26 Mummy's washing them

27 I've got to do all that now

28 //25 LINda 'bought you//45 SOCKS 54 MUM(v)//

29 Yes

30 Linda bought you socks

31 They're dirty

32 They've got to be washed

33 Did. Linda bought <you>me got . washed? ('false-starts')
(= have the socks Linda bought me got
to be washed?) (Trying to repeat
Mother's words)

34 Pardon?

35 //24 LINda wa-//324 WASH them// ('self-correction')

36 //24 NO//

37 //35 MUMmy's 'going t. 'wash them//

38 //15 LINda 'wash them//

39 //24 NO// 'Linda's 35 NOT 'going to 'wash them//

..

40 //24 LINda 'not 'going//54 WASH them//

41 //35 NO//

42 //35 MUMmy 'wash them//

...

43 //'This is↑ Daddy's 43 SOCKS 'Mum (v)//

44 Pardon?

45 //'This is 35 DADdy's 'sock//

Name: Sally Date of Birth: 8.4.70 Date of Recording: 10.1.75 Record. No. 7

SAMPLE NO. 8 Participants: Mother, Sally Location: Kitchen
Time: 11.57
Activity: Mother cooking lunch. Sally watching.

Ma (v) [Radio on]
I've got a * cos . I didn't - I
- that make me sick that do

NR

Ma (v) can I go out?

No

It's cold out now

One two three four five six [Mother counts before light-
seven eight nine ten (sings) ing the gas stove]

Mum (v) what we got?

NR

Mum (v) let me have a look what's
burning

Mum (v) that egg's burning in'it?

What?

That egg's burning

..

Oh Mum (v)! (with consternation)

Which - where my egg?

NR

Mum (v) we both got to have eggs

I'll be a bag of nerves if you
don't shut up (shouts)

...

Mum (v)

Lift your bag up (command)

NR

Oh! what's that?

" * * * * * <all the food>"

* *

Mum (v) we both - [Mother beating eggs]

..30..

SAMPLE NO. 9 Participants: Sally, Mother Location: Kitchen
Time: 12.07
Activity: Mother preparing Sally watching

..

"Oh"

..4..

What you doing?

NR	You do it the hard way don't you?
	..
"Don't fall out"	
Ah! baked potato!	[Sally doesn't seem to expect any answers]
* * * *	
	..6..
	Oh God!
	..7..
That egg and chips	
	..
That egg is dirty Mummy (v)	
	NR
	..6..
Oh! bacon!	
Now what's this?	
	[Sally mistakes chops for bacon]
	What! (exclamation)
	You got bacon on the mind of summat?
NR	
	..5..
"Oh"	
	Right take a stool in now * * ready yet
	..
Mum (v) this is a pancake	
Pancakes	
	It's not a pancake
	It's an omelette (brusquely)
Omelette (repeats)	
O-o-o-o	
Omelette omelette	
I likes omelette	
	..5..

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